

REMARKS

**I. Introduction**

Claims 8-15 are currently pending in this application. Claims 8-10 and 13-15 have been amended. Support for these amendments to the claims is found throughout the specification, for example at paragraphs 33 and 34 of the specification. No new matter has been added.

For the following reasons the application should be allowed and passed to issue.

**II. Claim Rejections – 35 U.S.C. § 112, second paragraph**

Claim 8-10 and 13-15 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to point out and distinctly claim the subject matter regarded as the invention. Specifically, the Examiner asserted that the term “based” is not clear.

Applicants respectfully submit that the claim amendments obviate these rejections.

The Examiner also separately rejected claim 9 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to point out and distinctly claim the subject matter regarded as the invention.

Applicants respectfully submit that the claim amendments obviate this rejection.

Accordingly, Applicants respectfully request that the rejections be withdrawn.

**III. Claim Rejections – 35 U.S.C. § 102**

Claims 8-10 and 13-15 were rejection under 35 U.S.C. § 102(b) as allegedly being anticipated by Mohanty et al U.S. 2003/0216496 (“Mohanty”), or Ohme et al U.S. 2004/024803 (“Ohme”). Applicants respectfully submit that the claims have been amended to expedite prosecution.

Independent claims 8 and 13-15 each recite in pertinent part, “wherein said flame retardancy-imparting component is supported on an inorganic porous material.”

Anticipation under 35 U.S.C. § 102 requires that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed Cir. 1987). At a minimum, the cited prior art does not disclose (expressly or inherently) that “said flame retardancy-imparting component is supported on an inorganic porous material.”

Mohanty teaches polymeric materials, but does not disclose a flame retardancy-imparting component supported on an inorganic porous material.

Furthermore, Ohme discloses a resin composition, but Ohme does not disclose a flame retardancy-imparting component supported on an inorganic porous material.

As such, neither Mohanty nor Ohme anticipate claims 8 and 13-15.

Moreover, the combination of the flame retardancy-imparting component supported on an inorganic porous material results in an unexpected advantage, as the mixing ratio of the flame retardancy-imparting component can be reduced as compared with that of a flame retardancy-imparting component which is not supported by an inorganic porous material. This is due to the inorganic porous material’s improvement of dispersibility.

For example, as shown in Examples 1 and 2 of the instant specification, the mixing ratio of the flame retardancy-imparting component component may be reduced by combining the flame retardancy-imparting component with the inorganic material. In the resin composition prepared in Example 1, the weight ratio of the resin component to SiO<sub>2</sub> porous material supporting the flame retardancy-imparting component was 90:10 and the mixing ratio of the

flame retardancy-imparting component was 3.75%. The resin composition obtained in Example 1 was evaluated to be "0" according to the UL specification.

In Example 2, the resin composition was prepared without support of the flame retardancy-imparting component by an inorganic porous material. A mixing ratio of 88:12 (resin component to flame retardancy-imparting component), was required to achieve a "0" UL evaluation.

As such, when the flame retardancy-imparting component is supported by the inorganic porous material, the mixing ratio of the resin component can be increased (90 versus 88) and the mixing ratio of the flame retardancy-imparting component can be reduced (10 versus 12).

Furthermore, this advantage in reducing the ratio of flame retardancy-imparting component to resin when the flame retardancy-imparting component is prepared with the inorganic porous support material, was further confirmed in the comparison of Examples 3 and 4, 5 and 6, and 8 and 9.

Moreover, as stated in paragraph 62 of the instant specification,

"[i]t is found that the SiO<sub>2</sub> porous material per se is a flame-retardant component from the results of Example 7. Therefore, it can be said that the flame retardancy of the resin composition is synergistically improved by the SiO<sub>2</sub> porous material and the flame-retardant component supported on the material in the samples obtained in Examples 1, 3 and 5."

Therefore, it is clear that when the flame retardancy-imparting component is supported by the inorganic porous material, the flame retardancy-imparting component properties of the resin composition is unexpectedly improved.

Accordingly, it is respectfully submitted that claims 8 and 13-15 are allowable.

Furthermore, claims 10-12 depend from and further define the subject matter of claim 8 and therefore are also allowable.

**IV. Claim Rejections – 35 U.S.C. § 103(a)**

Claims 11-12 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Mohanty or Ohme in combination with Dorfman et al U.S. 3,983,185 (Dorfman).

Claim 8 as amended, recites in pertinent part, “wherein the flame-retardancy imparting component is supported on an inorganic porous material.”

In order to establish a *prima facie* obviousness rejection under 35 U.S.C. § 103(a), all the claim limitations must be taught or suggested by the prior art. *In re Rokay*, 490 F. 2d 981, 180 USPQ 580 (CCPA 1974). Further, “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006). As discussed above in reference to claim 8, at a minimum, neither Mohanty nor Ohme disclose that, “the flame retardancy-imparting component is supported on an inorganic porous material,” as recited in claim 8.

Furthermore, Dorfman fails to cure this deficiency in both Mohanty and Ohme as Dorfman also fails to disclose that, “the flame retardancy-imparting component is supported on an inorganic porous material,” as recited in claim 8.

Dorfman describes a fire retardant polymer but does not disclose that “the flame retardancy-imparting component is supported on an inorganic porous material,” as recited in claim 8.

As such none of the prior art references, either alone or in combination, expressly or inherently teach all of the claim elements of independent claim 8.

Accordingly, it is respectfully submitted that claim 8 is allowable.

Furthermore, claims 11-12 depend from and further define the subject matter of claim 8 and therefore are also allowable.

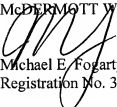
**IV. Conclusion**

In view of the above amendments and remarks, Applicants respectfully submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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